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10/729,017	12/05/2003	Nick Huffman	HFMN.001A	8816

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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

PENDLETON, DIONNE

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,017

Applicant(s)

HUFFMAN, NICK

Examiner

Dionne H. Pendleton

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9 and 11-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Claims 1-4, 7,8 and 17-19, directed to a speaker system and method for extending frequency response within a speaker system, previously withdrawn from consideration as a result of a restriction requirement mailed 6/28/2005, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, the restriction requirement as set forth in the Office action mailed on 6/28/2005 is hereby withdrawn and a new restriction requirement is set forth below.

2. This application contains claims directed to the following patentably distinct species:

Group I, illustrated in figures 1A, 1B, 1C.

Group II, illustrated in figures 2A, 2B, 2C.

Group III, illustrated in figures 3A, 3B, 3C.

Group IV, illustrated in figure 4.

Group V, illustrated in figure 5.

Group VI, illustrated in figures 6A, 6B.

3. The species are independent or distinct because the Applicant has not identified each species as an obvious variation.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, there are no generic claims.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

4. In a telephone correspondence on 4/26/2006, Attorney Gregory Hermanson made a provisional election, without traverse, to prosecute the invention of Species 4, claims 1-4,7-9,11-26. Affirmation of this election must be made by applicant in replying to this Office action. Claims 5,6 and 10 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

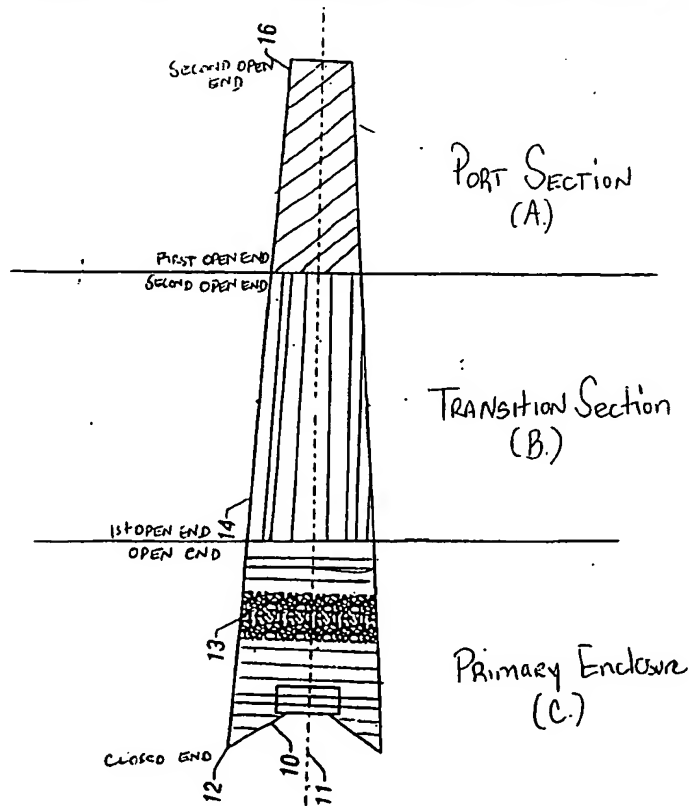
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-4, 7-9, 11-20 and 22-26** are rejected under 35 U.S.C. 102(e) as being anticipated by **Hoefler (US 6,771,787)**.

Regarding claim 1, in figure 1, Hoefler teaches a speaker system. Based upon the Applicant's specification, page 14, paragraph [0075], the Applicant teaches that the primary enclosure may "gently transition to the port section", as is clearly illustrated in figure 4. The Examiner has horizontally dissected the tubular waveguide of Hoefler into a *first (C)*, a *second (B)* and a *third (A)* section (see the marked-up drawing provided, below)



Wherein the *first* **(C)** of the three sections illustrates a “lower” portion of the enclosure, indicated by horizontal lines, reading on “a primary enclosure having at least one wall and a volume”;

A speaker driver **10**, mounted to a wall of the enclosure such that the front face is external to the primary enclosure and the rear face is internal to the primary enclosure;

Wherein the *third* **(A)** of the three sections, illustrated in the marked-up figure as having diagonal lines there through, indicates a “top” section of the enclosure, which reads on “a port section **(A)** external to the primary enclosure **(C)**, the port section including a port opening **16**”;

And, wherein the *second* **(B)** of the three sections, illustrated in the marked-up figure as having vertical lines there through, indicates a “middle” section of the enclosure, which reads on “a transition region **(B)** coupling the primary enclosure **(C)** to the port section **(A)** such that air in the primary enclosure **(C)** is coupled external to the primary enclosure via the port opening **16**.”

Regarding claim 2, **marked-up figure 1** of Hoefler teaches that the transition region **(B)** comprises a transition section external to the primary enclosure **(C)**, the transition section defining a continuous transition from the primary enclosure to the port opening, as claimed.

Regarding claim 3, **marked-up figure 1** of Hoefler teaches that the transition region **(B)** comprises a first end having an opening coupled to air within the primary enclosure, the first end opening having dimensions equal to an internal dimension of the primary enclosure (see marked-up figure provided by the Examiner.)

Regarding claim 4, Hoefler teaches that the primary enclosure, illustrated in **figure 1**, is a cylindrical enclosure, as claimed.

Regarding claim 7, Hoefler teaches that the *vertical* axis of the port opening is perpendicular to an axis (see, the *horizontal* axis) of the speaker driver.

Regarding claim 8, in **column 5, lines 63-65** and **column 6, lines 24-25**, Hoefler teaches a dip in output at about 350HZ, reading on “having a free air resonance less than 420Hz”; and Hoefler further teaches in **column 3, lines 28-29**, a 65 mm (6.5 cm) driver, reading on “diaphragm dimension less than 35cm”.

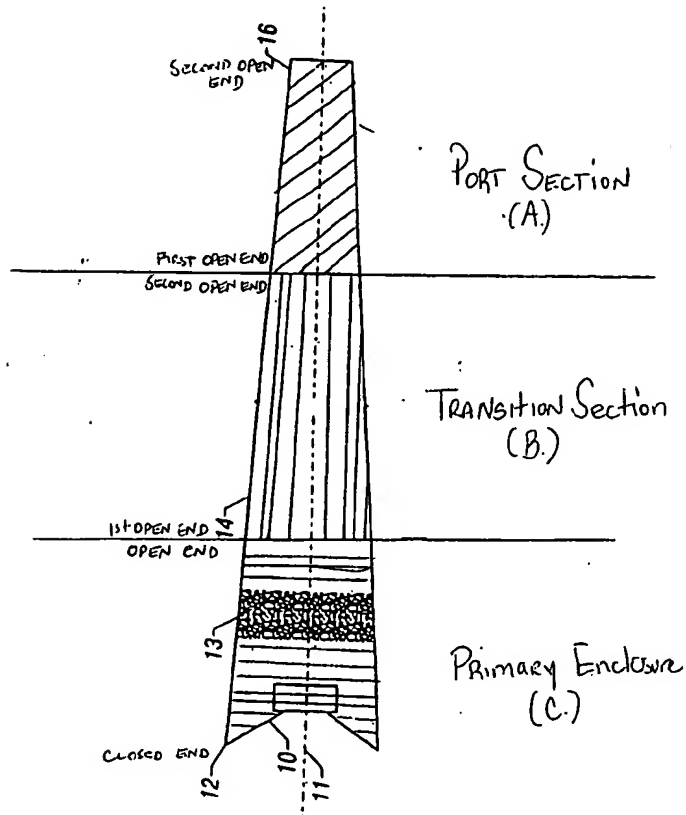
Regarding claim 9, in **figure 1**, Hoefler teaches a speaker system, comprising: a substantially cylindrical primary enclosure (*see section (C) as indicated in the marked-up Hoefler figure, also see column 3, line 1*) having a primary enclosure volume and having an open end and a closed end **12** (*closed by the transducer 10 mounted therein*);

a speaker **10** for reproducing a full range of high frequency audio signals, mounted to a surface of the primary enclosure, a front face of the speaker driver **10** positioned external to the primary enclosure and a rear face of the speaker driver positioned internal to the primary enclosure;

Based upon the Applicant's specification, page 14, paragraph [0075], the Applicant teaches that the primary enclosure may “gently transition to the port section”, as is clearly illustrated in figure 4. The Examiner has horizontally dissected the tubular waveguide of Hoefler into 3 sections:

- 1.) a “top” port section (**A**), indicated by diagonal lines;

- 2.) a "middle" transition section **(B)**, indicated by vertical lines; and
- 3.) a "lower" primary enclosure **(C)**, indicated by horizontal lines;



Accordingly, the "top" section **A**, as interpreted by the Examiner, reads on "a substantially cylindrical port section having first and second open ends, the axis of the port section coincident with the axis of the primary enclosure";

And the "middle" section **B**, as interpreted by the Examiner, reads on "a transition section having a first open end coupled to the open end of the primary enclosure and a second open end coupled to the first end of the port section" and wherein the transition section tapers from a dimension of the primary enclosure to the port section, as claimed.

Regarding claim 11, Hoefler teaches that the speaker driver is mounted to “a face” of the primary enclosure.

Regarding claim 12, in **figure 1**, Hoefler teaches that the axis of the speaker driver **10** is substantially perpendicular to the axis of the port section.

Regarding claim 13, Hoefler teaches that the dimensions of the first open end of the transition section substantially match dimensions of the open end of the primary enclosure.

Regarding claim 14, Hoefler teaches that the dimensions of the second open end of the transition section substantially match dimensions of the port section.

Regarding claim 15, Merriam-Webster's Medical Dictionary, © 2002 Merriam-Webster, defines “bottle” as: a rigid or semi rigid container typically of glass or plastic having a comparatively narrow neck or mouth and usually no handle. Since said definition does not restrict to any particular materials, and since **figure 1** of Hoefler teaches a rigid container for acoustic waves, wherein the terminus end **16** reads on “a comparatively narrow neck”, **Figure 1** of Hoefler is interpreted as teaching that the primary enclosure comprises a body portion of a bottle, as claimed.

Regarding claim 16, **figure 1** of Hoefler, specifically the port section (**A**), is interpreted as reading on the “neck of bottle”, as so defined by Merriam-Webster's Medical Dictionary, © 2002 Merriam-Webster.

Regarding claims 17-19, shown in the **marked-up figure 1** of Hoefler, above, Hoefler teaches a primary enclosure (**C**); means for porting (**A**) the primary enclosure wherein the port section dimensions are smaller than a cross section of the primary

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enclosure volume; means for transitioning **(B)** acoustic energy, in a continuous reducing section, from within the primary enclosure **(C)** to the means for porting **(A)** the primary enclosure; and means for providing audio **10** mounted to the primary enclosure.

Regarding claim 20, in **figure 1**, Hoefler teaches a speaker system, comprising: a substantially cylindrical primary enclosure (*see section (C) as indicated in the marked-up Hoefler figure, also see column 3, line 1*) having mounted therein a 6.5 cm transducer, thereby reading on “a primary enclosure having a diameter of less than 30 cm” and a primary enclosure volume and having an open end and a closed end **12** (*closed by the transducer 10 mounted therein*);

a speaker **10** for reproducing a full range of high frequency audio signals, mounted to a surface of the primary enclosure, wherein the horizontal axis of the transducer is mounted less than 7 cm above the closed end, a front face of the speaker driver **10** positioned external to the primary enclosure and a rear face of the speaker driver positioned internal to the primary enclosure;

a substantially cylindrical port section **(A)**, described in column 4, lines 30 as 0.9 inches square, i.e., 2.286 cm square, reading on “of less than 2.5 cm diameter”, the axis of the port section coincident with an axis of the primary enclosure;

and a transition section **(B)**, having a first open end coupled to the open end of the primary enclosure and a second open end opposite the first open end, the second end coupled to the first end of the port section, said transition section tapers from a dimension of the primary enclosure to the port section, as claimed.

Regarding claim 22, Hoefler teaches that the port section is external to the primary enclosure.

Regarding claim 23, in **column 5, lines 63-65** and **column 6, lines 24-25**, Hoefler teaches a dip in output at about 350HZ, reading on “having a free air resonance less than 420Hz”; and Hoefler further teaches in **column 3, lines 28-29**, a 65 mm (6.5 cm) driver, reading on “diaphragm dimension less than 35cm”.

Regarding claim 24, Hoefler teaches that the first open end of the transition section has *about the same* diameter as the open end of the primary enclosure.

Regarding claim 25, Hoefler teaches that the first open end of the transition section has *about the same* diameter as an internal dimension of the primary enclosure, as broadly claimed.

Regarding claim 26, **figure 1** of Hoefler, specifically the port section **(A)**, is interpreted as reading on the “neck of bottle”, as so defined by Merriam-Webster's Medical Dictionary, © 2002 Merriam-Webster.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hoefler (US 6,771,787)**.

Regarding claim 21, **column 3, lines 28-29** of Hoefler teaches that a cone type 65mm driver with ceramic motor, type transducer is employed. Hoefler does not clearly teach that the diameter of the speaker driver is less than 3 cm. However, Hoefler teaches that some other type of transducer may be employed and therefore does not restrict to any particular speaker driver dimension. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to alter the device of Hoefler, so as to comprise a driver having a dimension less than 3 cm, where a proportionately smaller loudspeaker construction is desired.

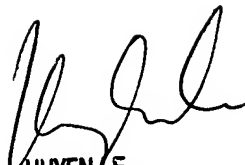
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dionne Pendleton


HUYEN LE
PRIMARY EXAMINER